

CLAIMS

The invention claimed is:

- 1 1. A platform for supporting an occupant, said platform comprising:
 - 2 a chassis whereeto a mattress is attached; and
 - 3 a guide mechanism movably supported by said chassis, the mattress having an
 - 4 undulation formed by routing the mattress through said guide mechanism, the undulation
 - 5 continuously-movable relative to said chassis in concert with said guide mechanism.
- 1 2. The platform of claim 1 further including at least one tensioner attached to said
 - 2 chassis and coupled with the mattress.
- 1 3. The platform of claim 1 further comprising a carrier movably mounted on said
 - 2 chassis and movable relative to the mattress supported by said carrier.
- 1 4. The platform of claim 3 wherein said carrier includes a plurality of bearing
 - 2 elements and a drive train, said plurality of bearing elements mounted to said drive
 - 3 train, said guide mechanism attached to said drive train.
- 1 5. The platform of claim 4 wherein said guide mechanism comprises a plurality
 - 2 of guides.
- 1 6. The platform of claim 5 wherein said drive train is operatively coupled
 - 2 with each of said plurality of guides.
- 1 7. The platform of clam 5 wherein at least two of said plurality of guides
 - 2 have a continuously-variable gap therebetween, the undulation having a
 - 3 continuously-variable span responsive to said continuously-variable gap.

1 8. The platform of claim 7 wherein said guide mechanism includes at
2 least one collector and at least one dispenser, said at least one collector
3 and said at least one dispenser responsive to the movement of said
4 guide mechanism relative to said chassis, said at least one dispenser
5 releasably coupled with at least one first stratum to be installed between
6 the mattress and the occupant, said at least one collector receivably
7 coupled with at least one second stratum located between the mattress
8 and the occupant, the first and the second strata removably attached to
9 said chassis.

1 9. The platform of claim 8 wherein, with the weight of the occupant on
2 the mattress, said at least one dispenser is capable of installing the
3 first stratum and said at least one collector is capable of removing the
4 second stratum substantially without moving the occupant and
5 substantially without frictional movement of the first and the second
6 strata relative to the occupant.

1 10. The platform of claim 1 further including a monitoring device disposed in the
2 undulation.

1 11. The platform of claim 10 further including a computer network coupled with
2 said monitoring device.

1 12. The platform of claim 1 further including a therapeutic device disposed in the
2 undulation.

1 13. The platform of claim 1 further including a facility disposed in the undulation.

1 14. The platform of claim 1 further including a sanitation tray disposed in the
2 undulation.

1 15. The platform of claim 14 further including brushes disposed in the undulation
2 above said sanitation tray.

1 16. The platform of claim 1 wherein said chassis further includes at least one tilt
2 mechanism.

1 17. The platform of claim 1 further including an automated control system.

1 18. The platform of claim 17 further including a computer network coupled to said
2 automated control system.

1 19. A bed for supporting an occupant, said bed comprising:

2 a chassis;

3 a mattress attached to said chassis; and

4 at least one guide mechanism movably supported by said chassis, said mattress
5 having an undulation formed by routing said mattress through said guide mechanism,
6 said undulation continuously-movable relative to said chassis in concert with said guide
7 mechanism.

1 20. The bed of claim 19 further comprising a carrier movably mounted on said
2 chassis, said carrier movable relative to said mattress, said guide mechanism attached
3 to said carrier, said mattress supported by said carrier.

1 21. The bed of claim 20 wherein said guide mechanism comprises a plurality of
2 guides, at least two of said plurality of guides having a continuously-variable gap
3 therebetween, said undulation having a continuously-variable span corresponding
4 to said continuously-variable gap.

1 22. The bed of claim 21 further comprising dispensing and collecting means for
2 installing at least one first stratum between said mattress and the occupant and
3 for removing at least one second stratum installed between said mattress and
4 the occupant, said dispensing and collecting means attached to said guide
5 mechanism and responsive to the movement of said guide mechanism relative
6 to said chassis, the first and the second strata removably attached to said
7 chassis.

1 23. The bed of claim 22 wherein, with the weight of the occupant on said
2 mattress, said dispensing and collecting means is capable of installing the
3 first stratum and removing the second stratum substantially without moving
4 the occupant and substantially without frictional movement of the first and
5 the second strata relative to the occupant.

1 24. The bed of claim 23 further including a monitoring device disposed
2 in said undulation.

1 25. The bed of claim 24 further including a computer network coupled
2 with said monitoring device.

1 26. The bed of claim 23 further including a therapeutic device disposed
2 in said undulation.

1 27. The bed of claim 23 further including a facility disposed in said
2 undulation.

1 28. The bed of claim 23 further including a sanitation tray disposed in
2 said undulation.

1 29. The bed of claim 28 further including brushes disposed in said
2 undulation above said sanitation tray.

1 30. The bed of claim 23 wherein said chassis further includes at least
2 one tilt mechanism.

1 31. The bed of claim 23 further including an automated control system.

1 32. The bed of claim 31 further including a computer network coupled
2 to said automated control system.

1 33. A method of gaining access to and relieving pressure from at least one desired
2 location under an occupant of a surface, said method comprising:
3 providing an undulation in said surface, said undulation continuously-movable
4 relative to the occupant and having a continuously-variable span;
5 translating said undulation to said at least one desired location substantially
6 without moving the occupant and substantially without frictional movement of said surface
7 relative to the occupant; and
8 adjusting said continuously-variable span of said undulation substantially without
9 moving the occupant and substantially without frictional movement of said surface relative
10 to the occupant to provide a space of sufficient size to gain access to said at least one
11 desired location and to relieve pressure therefrom.

1 34. A method of removing at least one first stratum located between a surface and an
2 occupant whose weight is on the surface and installing at least one second stratum
3 between the occupant and the surface, substantially without moving the occupant and
4 substantially without frictional movement of the first and the second strata relative to the
5 occupant, the method comprising:

6 providing an undulation in said surface, said undulation continuously-movable
7 relative to the occupant;
8 translating said undulation relative to the occupant; and
9 responsive to said translation, collecting said at least one first stratum into said
10 undulation and dispensing said at least one second stratum from said undulation.

1 36 A method of promoting circulation of blood and tissue fluids of patient resting on a
2 surface, the method comprising:

3 providing an undulation in said surface, said undulation continuously-movable
4 relative to the patient and having a continuously-variable span;

5 adjusting said continuously-variable span to be within a specific range;

6 translating said undulation toward the head of the patient at a first predetermined
7 speed;

8 adjusting said continuously-variable span to be at the lower limit of said specific
9 range; and

10 translating said undulation toward the feet of the patient at a second predetermined
11 speed.